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Paulsboro Train Derailment

Paulsboro, NJ - EPA Region II

POLREP #3

Progress

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U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Paulsboro Train Derailment - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region II

Subject: POLREP #3
Progress
Paulsboro Train Derailment

Paulsboro, NJ
Latitude: 39.8345751 Longitude: -75.2368212

To: Kelli Lucarino, USEPA Region 02
Keith Glenn, Region 2, ERRD, RPB
Eric Mosher, USEPA, Region 2, ERRD-RPB
Christopher Jimenez, USEPA Region 02
James Daloia, USEPA, Region 2, ERRD-RPB
Judith Enck, EPA
Lisa Plevin, EPA
Marc Greenberg, USEPA
Patrick Digangi, NJDEP
Anthony Carl, NJDEP
fred stroud, EPA ERT
Stephen Blaze, USEPA
James Manuel, NJDEP
Tom Kady, USEPA
Brian Kovak, USEPA-ERT
Elias Rodriguez, USEPA Region 02, PAD
Mary Mears, USEPA, Region 2, PAD
Leah Graziano, ATSDR
Michael Mariano, NJDEP
Chuck Nace, U.S. EPA Region 2
Beckett Grealish, USEPA Region 2, ERRD, RAB

From: Cris DOnofrio, On-Scene Coordinator
Terry Kish, On-Scene Coordinator

Date: 12/2/2012

Reporting Period: 0700 - 2200

1. Introduction

1.1 Background

Site Number:	Contract Number:	
D.O. Number:	Action Memo Date:	
Response Authority: CERCLA	Response Type:	Emergency
Response Lead: PRP	Incident Category:	Removal Assessment
NPL Status: Non NPL	Operable Unit:	
Mobilization Date: 11/30/2012	Start Date:	11/30/2012
Demob Date:	Completion Date:	
CERCLIS ID:	RCRIS ID:	
ERNS No.:	State Notification:	
FPN#:	Reimbursable Account #:	

1.1.1 Incident Category

Transportation Related - Conrail train car derailment

1.1.2 Site Description

1.1.2.1 Location

At approximately 0700 EST on 30 November 2012, Thirteen Conrail freight cars transporting chemicals and other goods derailed and overturned at a bridge crossing the Mantua Creek in Paulsboro, New Jersey. The incident occurred near the 200 block of East Jefferson Street. The Department of Transportation reported three cars fell into the creek. Conrail reported one of the tank cars released approximately 180,000 pounds of vinyl chloride into Mantua Creek. Onlookers also reported seeing a vapor cloud rise from the scene.

Mantua Creek is a stream in Mantua Township in Gloucester County. It flows northwest for 18.6 miles to the Delaware River at Paulsboro across from the Philadelphia International Airport. The FAA reports airport operations were unaffected. Mantua Creek is approximately 150 feet wide at the location of the bridge collapse. The incident occurred approximately 1.4 miles upstream of the outlet into the Delaware River.

The NTSB has been on scene since 1400 hours on 30 November 2012 doing their investigation.

1.1.2.2 Description of Threat

USCG, NJDEP, EPA and Gloucester County Emergency Response, including HAZMAT, responded to the incident. Gloucester County Emergency Response initially ordered residents to shelter-in-place. A half-mile radius evacuation zone was also issued for local residents. Paulsboro High School was placed on lockdown at 0715 EST. The school was later dismissed. The Transportation Security Operation Center reported that 18 residents reported possible effects from the spill and were placed in a staging area for decontamination.

Vinyl chloride is an industrial chemical described as a colorless gas with a sweet odor and known to be highly toxic, flammable and carcinogenic. It is primarily used in the production of PVC. According to the Environmental Protection Agency, short-term exposure to high levels of vinyl chloride in the air has resulted in central nervous system effects such as dizziness, drowsiness and headaches.

Two VCM cars were directly involved in the accident. One car was pierced and off-gassed approx. three quarters of the 22,000 gallons of VCM. Self-refrigeration froze the remaining VCM inside the car. An oil sheen was observed and is attributed to hydraulic fluid from the bridge entering the creek. Hard and soft boom was deployed on the creek by private contractor.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On November 30, 2012, EPA initiated air monitoring with the TAGA unit based in Edison, NJ. Preliminary results for VCM revealed ambient levels up to 1.3 ppm using actual GCMS.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

Technical delays prevented initiation of the VCM transfer on December 1 as hoped. At 2200 hours on December 1, EPA was notified that the transfer will be postponed until 0700 on December 2. One mobile RST team remained throughout the night performing ambient air monitoring and maintaining the AreaRAE network. No sustained elevated PID readings were observed.

On December 2, at 0700 hours, a safety briefing was held which preceded the transfer of VCM from the damaged railcar. EPA continued air monitoring support through use of the ERT TAGA unit, and two mobile teams of RST personnel performing air sampling using PIDs. One mobile team of SERAS personnel are performing air monitoring using a ppb RAE and are maintaining the AreaRAE network.

Set-up of the transfer operation was initially delayed due to heavy fog in the early morning as the fog prevented sampling support boats from entering the water. HAZMAT response personnel worked throughout the day to set-up, test, and troubleshoot the VCM transfer system. Several hundred feet of specialized hose is required to transfer the contents. The VCM will be transferred into six rail cars which contain a vacuum and are interconnected. Set-up of the transfer system continued throughout the day.

At approximately 1900 hours, with winds out of the SSW, EPA and DEP mobile air monitoring personnel detected slightly elevated concentrations of VCM along Mantua, north of the exclusion zone. A similar reading was observed at AreaRAE location 98, in the same area. The TAGA unit was dispatched to confirm the observations. The TAGA confirmed the presence of 2.5 ppm VCM. This concentration was consistent with the readings on the non-specific instruments.

At 2020 hours, EPA was notified that pumping had been initiated and may last six to seven hours. Air monitoring operations continued. At approximately 1130 hours, elevated readings were detected by RST near the Crown Point Rd Bridge, south of the exclusion zone. Sampling conducted by the TAGA between 0000 hours and 0130 hours in this area confirmed the presence of VCM at concentrations of 1.4 and 2.5 ppm. The area where these readings were obtained is largely marsh land with the Town of Paulsboro to the west and a trailer park situated to the east. Both RST and ERT confirmed that the elevated readings did not extend into residential areas.

On December 3 at 0300 hours, EPA was notified that a minor release of VCM had occurred within the exclusion zone relating to changes in operations. Approximately 800 gallons of product was thought to be remaining inside the tank, however the material was not transferrable via the same pumping technique. A plan was being developed to flood the tank with several thousand gallons of water and resume pumping into the empty rail cars. No elevated air monitoring results were observed in the community as a result of the release.

At 0430 EPA was notified that operations have been stopped. Because no additional product can be pumped from the tank, operations will change to flushing. The plans for the flushing will need to be approved by Unified Command. Operations are not planned to resume until 1200 hours on December

3.

EPA will continue air monitoring operations until 0600 hours to ensure that the temporary seal placed on the tank is secure. EPA, RST, ERT, and SERAS will resume operations at 1200 hours.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The PRP is Consolidated Rail Corporation (Conrail)

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal

2.2 Planning Section

2.2.1 Anticipated Activities

EPA will continue to support the air monitoring efforts as requested by the Unified Command.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

Following the completion of the VCM transfer, the next steps will include the following:
-Conducting a dive to assess the condition of the derailed cars and to evaluate rigging needs,
-Continued NTSB investigation,
-Removal of non-HazMat rail cars, and
-The use of barge cranes to remove debris and lift HazMat rail cars from the creek.

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

EPA personnel and contractors onsite as of December 3@ 0300 hours.

- 1-EPA OSC
- 1-ERT (TAGA bus)
- 4-RST team members
- 4-SERAS team members

5. Definition of Terms

EPA - U.S. Environmental Protection Agency
RST - EPA Removal Support Team contractor, Weston Solutions, Inc.
SERAS - ERT Scientific, Engineering, Response and Analytical Service contractor, Lockheed Martin
VCM - vinyl chloride monomer
NTSB - National Transportation Safety Board
ppm - parts per million
ERT - US EPA Environmental Response Team
DEP - New Jersey Department of Environmental Protection
TAGA - Trace Atmospheric Gas Analyzer

6. Additional sources of information

6.1 Internet location of additional information/report

www.epaosc.org/paulsborotrainerailment

6.2 Reporting Schedule

7. Situational Reference Materials

No information available at this time.